

CLAIMS

1. An optical component, comprising:
an optical device positioned between isolation channels configured to at
5 least partially isolate different regions of the optical component from one another;
and
at least one light absorbing region positioned so as to intercept light
traveling in a direction that would take the light between the optical device and an
isolation channel.
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2. The component of claim 1, wherein at least one light absorbing region is
positioned between the optical device and an isolation channel.
3. The component of claim 1, wherein the optical device includes at least one
15 electrical contact positioned over a doped region.
4. The component of claim 3, wherein at least a portion of a light absorbing
region is positioned between the doped region and an isolation channel.
- 20 5. The component of claim 1, wherein the optical device includes a
waveguide defined by a ridge extending from a slab of a light transmitting
medium and wherein the optical device includes at least one
electrical contact positioned in a trench extending into the slab of light
transmitting medium.
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6. The component of claim 5, wherein a distance between a side of the trench
and the waveguide tapers at one end of the trench.
7. The component of claim 1, wherein the optical device includes a plurality
30 of electrical contacts and a plurality of doped regions; and
a plurality of light absorbing region, each light absorbing region being
positioned adjacent to a different doped region.

8. The component of claim 7, wherein a dopant in each of the light absorbing regions is the same as a dopant in the adjacent doped region.

5 9. The component of claim 7, wherein a light absorbing region is positioned adjacent to every other doped region positioned on one side of a waveguide.

10. The component of claim 1, wherein the optical device includes a waveguide having a transition structure where radiation modes can be excited.

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11. The component of claim 10, wherein at least a portion of at least one light absorbing region is located adjacent to the transition structure.

12. The component of claim 1, wherein the optical device includes a
15 waveguide formed in a light transmitting medium, the at least one isolation channel extending through the light transmitting medium to a base.

13. An optical component, comprising:
an optical device positioned between an isolation channel and an edge of
20 the optical component, the isolation channel being configured to at least partially isolate different regions of the optical component from one another; and
at least one light absorbing region positioned so as to intercept light traveling in a direction that would take the light between the optical device and an isolation channel.

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14. The component of claim 13, wherein at least one light absorbing region is positioned between the optical device and the isolation channel.

15. The component of claim 13, wherein the optical device includes at least
30 one electrical contact positioned over a doped region and at least a portion of a light absorbing region is positioned between the doped region and an isolation channel.

16. The component of claim 13, wherein the optical device includes a waveguide defined by a ridge extending from a slab of a light transmitting medium and wherein the optical device includes at least one
5 electrical contact positioned in a trench extending into the slab of light transmitting medium.

17. The component of claim 13, wherein the optical device includes a plurality of electrical contacts and a plurality of doped regions; and
10 a plurality of light absorbing region, each light absorbing region being positioned adjacent to a different doped region.

18. The component of claim 17, wherein a dopant in each of the light absorbing regions is the same as a dopant in the adjacent doped region.
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19. The component of claim 17, wherein a light absorbing region is positioned adjacent to every other doped region positioned on one side of a waveguide.

20. The component of claim 13, wherein the optical device includes a
20 waveguide having a transition structure where radiation modes can be excited and at least a portion of at least one light absorbing region is located adjacent to the transition structure.

21. The component of claim 13, wherein the optical device includes a
25 waveguide formed in a light transmitting, the at least one isolation channel extending through the light transmitting medium to a base.

22. An optical component, comprising:
a light transmitting medium positioned on a base;
30 a plurality of optical devices positioned on the base such that the light transmitting medium extends between the optical devices; and

at least one light absorbing region positioned so as to intercept light traveling through the light transmitting medium between optical devices.

23. The component of claim 22, wherein at least one light absorbing region is
5 positioned between the adjacent optical devices.

24. The component of claim 22, wherein the optical device includes at least one electrical contact positioned over a doped region and at least a portion of a light absorbing region is positioned between the doped region and the adjacent
10 optical device.

25. The component of claim 22, wherein the optical device includes a waveguide defined by a ridge extending from a slab of the light transmitting medium and wherein the optical device includes at least one
15 electrical contact positioned in a trench extending into the slab of light transmitting medium.

26. The component of claim 22, wherein the optical device includes a plurality of electrical contacts and a plurality of doped regions and the optical component
20 includes a plurality of light absorbing region, each light absorbing region being positioned adjacent to a different doped region.

27. The component of claim 26, wherein a dopant in each of the light absorbing regions is the same as a dopant in the adjacent doped region.
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28. The component of claim 28, wherein a light absorbing region is positioned adjacent to every other doped region positioned on one side of a waveguide.

29. The component of claim 28, wherein the optical device includes a
30 waveguide having a transition structure where radiation modes can be excited and at least a portion of at least one light absorbing region is located adjacent to the transition structure.

30. A method of forming an optical component, comprising:
forming an optical device between isolation channels configured to at least
5 partially isolate different regions of the optical component from one another; and
forming at least one light absorbing region on the optical component such
that the at least one light absorbing region is positioned so as to intercept light
traveling in a direction that would take the light between the optical device and an
isolation channel.
- 10 31. The method of claim 30, wherein at least one light absorbing region is
formed between the optical device and an isolation channel.
32. The method of claim 30, wherein forming the optical device includes
15 forming at least one electrical contact formed over a doped region.
33. The method of claim 32, wherein at least a portion of a light absorbing
region is positioned between the doped region and an isolation channel.
- 20 34. The method of claim 32, wherein forming the optical device includes a
forming a ridge extending from a slab of a light transmitting medium and forming
at least one electrical contact in a trench extending into the slab of light
transmitting medium.
- 25 35. The method of claim 30, wherein forming the optical device includes
forming a plurality of doped regions such that each light absorbing region is
positioned adjacent to a different doped region.
- 30 36. The method of claim 35, wherein a dopant in each of the light absorbing
regions is different from a dopant in the adjacent doped region.

37. The method of claim 35, wherein the optical device includes a waveguide having a transition structure where radiation modes can be excited and at least one light absorbing region is positioned adjacent to the transition structure.

- 5 38. A method of forming an optical component, comprising:
obtaining an optical component having an optical device positioned
between an isolation channel and an edge of the optical component, the isolation
channel being configured to at least partially isolate different regions of the optical
component from one another; and
10 forming at least one light absorbing region on the optical component such
that the at least one light absorbing region is positioned so as to intercept light
traveling in a direction that would take the light between the optical device and an
isolation channel.

- 15 39. A method of forming an optical component, comprising:
obtaining an optical component having a plurality of optical devices
positioned on a base such that a light transmitting medium positioned on the base
extends between the optical devices; and
forming at least one light absorbing region in the light transmitting
20 medium so as to intercept light traveling through the light transmitting medium
between optical devices.

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